



Lessons Learned from the Financial Crisis: Designing Carbon Markets for Environmental Effectiveness and Financial Stability

*Testimony before the U.S. House Committee on Ways and Means
Michelle Chan, Director, Green Investments Program
Friends of the Earth - US
March 26, 2009*

Chairman Rangel, Congressman Camp, and Members of the Committee, thank you for the invitation to testify on the issue of a managed carbon price within a national climate policy. My name is Michelle Chan and I am the Director of Friends of the Earth – US's Green Investments Program. Friends of the Earth (FoE) – US is a 40-year old national environmental organization which is part of the world's largest grassroots environmental network, FoE International, with chapters in 77 countries some 5,000 local activist groups.

A Cautionary Tale

The spectacular regulatory and market failures we have witnessed in the current financial crisis provide a cautionary tale for any future carbon trading program. The crisis had many causes, including a breakdown of regulation, a potentially flawed model for managing systemic risks, too much leverage, and excessive risk-taking.

Congress and the Administration are currently debating new financial regulations to govern Wall Street. But if the newly-created financial rules and regulatory bodies only curb the most visible and extreme pathologies exposed by the financial crisis, and do not address the fundamental weaknesses that created it, in the future other catalysts – such as the collapse of the U.S. carbon markets – could also create reverberations across the broader economy.

This testimony will outline several lessons learned from the current financial crisis and apply them to carbon markets. It will also examine some regulatory weaknesses exposed by the crisis, and how, if uncorrected, they may play out in carbon derivative markets. Finally, it will examine the McDermott bill and other approaches to design and regulate carbon markets in ways that minimize risks to the broader financial markets.

Lessons Learned from the Financial Crisis, and Their Application to Carbon Trading

1. Size matters: speculation and the bubble economy

Asset bubbles are characterized by self-perpetuating but ultimately destructive cycles. In the current financial crisis, lax lending standards contributed to over-borrowing, which pumped up real estate prices, and encouraged mortgage originators to sell even more bad loans. Carbon markets too are at risk of experiencing boom-bust cycles.

Today, as a result of the economic downturn, carbon prices in Europe have collapsed after posting record years. Despite the global economic downturn, and soft carbon prices, the carbon market is growing rapidly; between 2006 and 2007 market values doubled, and increased 84% in 2008.¹

The boom was largely driven by a flood of new traders seeking financial returns. Asset managers began marketing carbon as a new asset class, encouraging investors to increasingly allocate a portion of their portfolio to carbon derivatives. Investment banks developed financial instruments such as indexes to allow even more investors to gain exposure to carbon, and new carbon funds (set up to finance offset projects and/or buy carbon credits) were formed. Today, **speculators do the majority of carbon trading, and they will continue to dominate as carbon markets grow.** In fact, about two-thirds of carbon investment funds by volume were not established to help companies comply with carbon caps, but rather for capital gains purposes.²

In 2006 Mark Trexler of EcoSecurities warned against “market speculators, whose role has been getting rather dangerous in contributing (in our view) to a ‘carbon dot com’ bubble analogous to the technology ‘dot com’ bubble.”³ In a speculative bubble, too much money chases too few viable investments, which can spur the development of shoddy assets. In retrospect, the behaviors exhibited in bubble economies – such as mortgage brokers approving “ninja loans” (loans to borrowers with no income, job, or assets) – seem reckless and ludicrous, yet in the absence of counter-cyclical financial policies, boom-bust cycles continue to occur.

A market dominated by speculators may push up prices, create a bubble and spur the development of subprime assets. In a carbon bubble, unscrupulous intermediaries may overpromise on offset projects by selling future credits based on projects that do not yet exist, are not additional, or which simply do not deliver the promised greenhouse gas (GHG) reductions. This would not only have financial impacts, but also environmental consequences, as economies fail to meet GHGs reduction targets.

2. The buildup of subprime assets poses systemic risks

The financial crisis was sparked by bad mortgages, and U.S. carbon markets could pose similar problems through the creation of “bad carbon” or “**subprime carbon.**” Subprime carbon -- called “junk carbon” by traders -- are contracts to deliver carbon that carry a relatively high risk of not being fulfilled and may collapse in value. They are comparable to subprime loans or junk bonds, which are debts that carry a relatively high risk of not being paid.

Subprime carbon would most likely come from shoddy carbon offset credits, which could trade alongside emission allowances in carbon markets. Offset credits are earned by implementing projects to reduce, avoid or sequester GHGs (compared to a business-as-usual scenario). They are generated outside the capped economy and can be sold to emitters within the

¹ “Carbon market up 84% in 2008 at \$118bn,” New Carbon Finance, press release 8 Jan 2009.

² *Carbon Funds 2007-2008*, Environmental Finance Publications, 2007.

³ Trexler, Mark, “I’ve heard the carbon market in Europe melted down a couple of weeks ago? What happened?,” [Weblog entry]. Climatebiz, May 15, 2006 at <http://www.climatebiz.com/blog/2006/05/15/i%E2%80%99ve-heard-carbon-market-europe-melted-down-a-couple-weeks-ago-what-happened>

capped economy to help them comply with their GHG limits. The largest market for carbon credits come from projects based in developing countries, under the Kyoto Protocol's Clean Development Mechanism (CDM). Compared to allowances, which are created by government fiat, offset providers must accomplish many steps before their projects actually earn credits. In addition to overcoming ordinary risks (related to factors such as interest and exchange rates, technical performance, etc.), projects need to create independently-verified GHG emissions reductions. Such emissions savings are not easy to prove with certainty.

The most common, and in fact universal, risk associated with offset projects relates to "additionality" – proof that the GHG savings which would not have occurred otherwise. Projects must demonstrate that they are additional in order for the CDM Executive Board to issue credits. But a recent study found that about three-quarters of dams (a major type of CDM project) receiving CDM credits were not additional; they were already built by the time they received the credits.⁴ The CDM has come under pressure to be stricter in issuing credits, but **it is nearly impossible to establish with certainty that an offset project is additional, a major risk contributing to subprime carbon.** A study by Stanford University found that "offset schemes are unable to determine reliably whether credits are issued for activities that would have happened anyway"⁵; a 2008 GAO report similarly concluded that "it is not possible to ensure that every [CDM] credit represents a real, measurable, and long-term reduction in emissions."⁶

Carbon credits can carry high risks because sellers often make promises to deliver carbon credits before the CDM Executive Board (or other crediting body) officially issues the credits, or sometimes even before verifiers confirm how much or if GHGs have been reduced. **Some cap-and-trade bills establish carbon trading schemes that allow carbon offset credits to make up 30% of carbon traded, which opens the door wide to subprime carbon.** Given the potentially huge size of the carbon trading market, and the increasing complexity of carbon derivatives products, subprime carbon creates a danger, not only to the environment but to the broader financial markets. Subprime carbon may not spark a financial contagion of a similar magnitude to that of subprime mortgages, but policy makers should take careful stock of the lessons learned from the current crisis before establishing what Merrill Lynch predicted could be "one of the fastest-growing markets ever, with volumes comparable to credit derivatives inside of a decade."⁷

3. *"Financial innovation" can hide risk; securitization can spread it*

In today's financial markets, rapidly inflating asset bubbles can also set the stage for the kinds of "financial innovation" that take straightforward transactions, such as using futures to

⁴ *Rip-Offsets: The Failure Of The Kyoto Protocol's Clean Development Mechanism*, International Rivers at http://www.internationalrivers.org/files/CDM_factsheet_low-rez.pdf

⁵ Wara, Michael W. & Victor, David G. "A Realistic Policy on International Carbon Offsets" Program on Energy and Sustainable Development, Working Paper #74: April 2008. http://iis-b.stanford.edu/pubs/22157/WP74_final_final.pdf

⁶ *International Climate Change Programs: Lessons Learned From The European Union's Emissions Trading Scheme And The Kyoto Protocol's Clean Development Mechanism*, US Government Accountability Office, Nov 2008 at <http://www.Gao.Gov/New.Items/D09151.Pdf>

⁷ Kanter, James, "In London's Financial World, Carbon Trading Is the New Big Thing," *New York Times*, July 6, 2007

hedge against risks (e.g. buying carbon allowances or credits to comply with regulations), to dangerous new levels. As we realized in the aftermath of the financial crisis, financial engineers developed and successfully sold increasingly complex and exotic products to sop up the seemingly limitless demand for mortgage-backed securities and related products.

Proponents of a cap-and-trade system tend to focus on the environmental objective of carbon trading, often drawing parallels with the experience of earlier emissions trading schemes. **But financial markets have become vastly more complex and exotic since the early 1990s, when the U.S. introduced sulfur dioxide trading, and carbon markets will be much larger.** A 2008 Credit Suisse securitized carbon deal illustrates how modern financial engineering is already being used in the carbon markets. The bank bundled together carbon credits from 25 offset projects *at various stages of UN approval*, sourced from three countries, and five project developers.⁸ They then split these assets into three tranches representing different risk levels and sold them to investors, a process known as securitization. Carbon-backed securities sound hauntingly close to mortgage-backed securities because they are indeed very similar in structure.

Although the Credit Suisse deal was relatively modest, future deals could become bigger and more complex, bundling hundreds or thousands of carbon assets of mixed types and origins, perhaps enhanced with agreements to swap more risky carbon credits for safer assets (such as government-issued emissions allowances) as “insurance” against junk carbon. Reportedly, Credit Suisse is securitizing another carbon deal for 2009, and other banks such as Lehman Brothers, JPMorgan Chase, and BNP Paribas are not far behind.⁹

As deals get more complex, securities can become more opaque. **It could be as difficult, if not more, to analyze the quality of the numerous underlying carbon offset projects as it is to analyze U.S. mortgages.** By now it is well known that credit rating agencies could not analyze the thousands of individual mortgages which comprised mortgage backed securities, so they instead relied instead on financial models which were ultimately flawed. Mathematical models are probably even less suited to analyzing a portfolio of diverse carbon offset projects.

A large market dominated by gamblers provides fertile ground for the development of complex and opaque products that can unwittingly spread subprime carbon through the broader financial marketplace. Although securitizations are currently down, they will probably increase in the future, as financial regulators continue to employ the “originate and distribute” approach for managing systemic risks.¹⁰ But as we have seen, without effective oversight this approach can instead provide vectors for financial contagion.

3. *Conflicts of interest spur excessive risk taking*

In the aftermath of the financial crisis, it is clear that many complex structured products, derivatives, off-balance sheet entities, etc. were inordinately risky, but very profitable in the

⁸ Szabo, Michael, “Credit Suisse to offer largest structured CO2 deal,” *Reuters*, 22 Oct 08.

⁹ Burne, Katy, “CS Preps Structured Carbon Credit Sale,” *DW Online*, 13 Jan 2009.

¹⁰ This model is based on the premise that securitizing assets and selling them to the broader capital markets is the most effective mechanism for transferring risk to those best equipped to handle it.

short-term. The lure of short-term fees, profits, and stock options meant that few CEOs questioned the growth of these risky new practices and products. In response, some new regulations have been issued, but conflicts of interest are still a problem, both in the broader financial sector and in the emerging carbon finance market.

For example, similar to how credit rating agencies helped design complex structured finance products and rated them, consulting firms that offer advice on developing carbon offset projects may also earn fees for verifying emissions reductions from projects. Banks that own equity stakes in carbon offset projects may also be carbon brokers or sector analysts, creating a temptation to bid up carbon prices to increase the value of their own carbon assets. For example, in October 2008 Goldman Sachs bought a stake in BlueSource, a carbon offset developer, and JPMorganChase bought stakes in ClimateCare, another offset specialist. **Such conflicts of interest are not unique to the carbon markets, but they compromise their integrity, from both a financial and environmental perspective.**

Regulatory Weaknesses Exposed by the Crisis; Implications for Carbon Trading

Policy makers and regulators have widely acknowledged that inadequate financial regulation was a key contributor to the current credit crisis. Regulatory lessons learned include:

1. *Self-regulation and self-interest are inadequate for protecting market integrity*

For more than a decade, Wall Street successfully promoted a deregulatory agenda that lifted governmental oversight in favor of self-regulation. In the wake of the credit crisis, many policy makers now recognize the harm that was caused by financial deregulation. Relying on the self-interest of Wall Street to properly regulate itself, as many policy makers long believed was possible, is clearly inadequate to protect the integrity of the markets. **Carbon trading firms have strongly advocated for self-regulation as a way to govern this market, and most cap-and-trade bills implicitly reflect this mode of governance.** In a letter to Senators Feinstein and Snowe, who introduced a carbon market governance bill, the International Emissions Trading Association asserted that “the market itself recognizes the importance of integrity and exerts discipline on participants.” They cite a number of self-policing tactics, saying for example that “trading companies set their own trading limits to guard against excessive speculation.”¹¹

2. *Our regulatory patchwork must be fixed*

Another lesson learned from the crisis is that a variety of state and federal regulators were responsible for discrete segments of the primary and secondary mortgage markets, but they did not coordinate with each other and sometimes had different policy objectives.

In the primary market, banks were subject to a host of consumer protection laws, such as the Truth in Lending Act and the Home Mortgage Disclosure Act, and regulated by numerous state and national agencies. In the secondary market, regulation was similarly scattered. Conforming mortgages bought by Fannie Mae and Freddie Mac were supervised by the Office of

¹¹ IETA letter to Sens. Feinstein and Snowe, 4 March 2008 at <http://www.ieta.org/ieta/www/pages/getfile.php?docID=2938>

Federal Housing Enterprise Oversight; non-conforming loans securitized by broker-dealers were overseen by SEC.¹²

Along the lengthy financial value chain from mortgage brokers to credit default swap counterparties, these various regulators did not share information and coordinate with each other. In addition, no agency had purview over monitoring and responding to the growing real estate asset bubble and dangerous trends building up in the primary and secondary mortgage markets. **Unless regulatory coordination dramatically improves, similar dynamics will likely play out in the project, primary and secondary carbon markets.**

3. Derivatives must come out from the shadows, and be subject to regulation

While on the one hand lack of regulatory coordination led to an inability to perceive and manage the broader risks developing in the mortgage markets, it is also clear that huge regulatory gaps existed in some key parts of Wall Street. Known as the “shadow banking sector,” these largely under- or unregulated parts of the financial sector are dominated by off-the-books structured investment vehicles, hedge funds and most of all, derivatives. **The lack of regulation in the derivatives market has particularly significant implications for the carbon markets.** While most carbon derivatives are currently quite simple, as the markets mature, more exotic instruments will likely develop. Because carbon markets are expected to be so large, the need for adequate oversight is even more critical.

Since the financial crisis, various proposals, legislative and otherwise, have been made to improve governance of over the counter (OTC) derivatives. Since the vast majority of carbon derivatives trading is done OTC (for example, about 70 percent of European Union Allowances trade OTC¹³), the OTC derivatives rules will play a key role in future of carbon trading regulation. However, most derivatives proposals have focused on credit default swaps, rather than the broader derivatives market.

4. Regulatory capture and undue political influence undermined financial governance

One of the most sobering lessons from the financial crisis is how Wall Street’s deregulatory achievements were made possible through aggressive political lobbying and campaign contributions. Since 1990, the financial industry has more than quadrupled its federal campaign contributions, and is now the leading source of campaign contributions to federal candidates and parties. (In 2006, for example, the industry donated \$252 million and spent \$368 million in federal lobbying efforts.¹⁴)

For carbon trading to be successful – from an environmental, financial and governance perspective – policy makers and market regulators must be even more insulated from political

¹² Statement of the Honorable Steve Bartlett, President and Chief Executive Officer, The Financial Services Roundtable, before the Committee on Financial Services, U.S. House of Representatives, October 21, 2008 at http://www.house.gov/apps/list/hearing/financialsvcs_dem/financial_modernization_testimony_steve_bartlett_.pdf

¹³ Point Carbon, *Carbon 2008: Post 2012 is Now*, 11 Mar 08.

¹⁴ Center for Responsive Politics, <http://www.opensecrets.org/industries/background.php?cycle=2008&ind=F> and <http://www.opensecrets.org/industries/indus.php?cycle=2008&ind=F>

influence. The UK financial regulator noted, “The key differences in the emissions market, compared with other commodities markets, are that it is a politically-generated and managed market and that the underlying [instrument] is a dematerialised allowance certificate, as opposed to a physical commodity. Also, there is a compliance aspect to the underlying market.”¹⁵

It is precisely these politically-generated and managed aspects of carbon trading, as well as its compliance aspects, which make carbon markets particularly vulnerable to inappropriate lobbying and regulatory capture. Wall Street firms, eager to gain more carbon brokerage business, have advocated for an increasing proportion of carbon offsets to be allowed in a carbon trading system, despite the fact that this would make the market more vulnerable to subprime carbon risks. Today, the finance industry has 130 climate change lobbyists seeking to influence carbon market development.¹⁶

Designing for Integrity

In light of the abovementioned risks and lessons learned, it is critical to ensure integrity and adequate governance in newly-created carbon markets. In general policymakers seem to be taking four approaches to achieving this:

1. *Subjecting carbon to general commodities/derivatives regulation*

This governance approach essentially treats carbon like other commodities, and relies on existing and emerging commodities/derivatives regulations to oversee carbon markets. This approach is essentially the “default” mode for regulating carbon, in the absence of specific or new mechanisms. Future regulations will likely include: requiring some derivatives to be traded on exchanges rather than over the counter, introducing higher margin requirements, enforcing position limits, enhancing regulatory capacity, etc.

FoE supports measures to bring more accountability and stability to the derivatives markets in general. However, carbon trading has some unique components that may need to be covered by entirely new regulations. In addition, we believe **it is imprudent to so hastily create the largest derivatives market in the world and foist it upon an untested regulatory regime.** Rather, since carbon commodities are being created from government fiat, it is better to fundamentally structure carbon markets in ways that minimize their size and complexity, avoiding problems in the first place, rather than trying to contain market excesses.

2. *Subjecting carbon to specific regulation*

A few bills introduced in the 110th Congress propose various mechanisms to govern carbon markets. As described in a newly-released report,¹⁷ FoE notes that most bills focus on which regulatory agencies have jurisdiction over carbon derivatives, and borrow from existing

¹⁵ UK Financial Services Authority Commodities Group, “The Emissions Trading Market: Risks and Challenges,” March 2008 at http://www.fsa.gov.uk/pubs/other/emissions_trading.pdf

¹⁶ “The Climate Change Lobby Explosion,” The Center for Public Integrity, 24 Feb 2009 at http://www.publicintegrity.org/investigations/climate_change/articles/entry/1171/

¹⁷ *Subprime carbon?: Re-thinking the world’s largest new derivatives market*, Friends of the Earth, March 2009 at www.foe.org

securities and commodities regulations. Friends of the Earth agrees that jurisdictional questions must be clarified, and that carbon must be well-integrated with broader financial governance. But again, **carbon market design can play a relatively more important role than regulations in ensuring market integrity.**

3. *Adopting modest design elements to a cap-and-trade system*

Another approach is to design carbon markets to include various options that have been proposed in “traditional” cap-and-trade bills. For example, **FoE strongly endorses prohibiting offsets, as we believe it is the best way to prevent the development of subprime carbon.** Other options, such as establishing price floors and ceilings and prohibiting/limiting banking, may reduce price volatility. This would, to some extent, curb speculation, prevent the development of a carbon bubble, and have other attendant benefits. However, adopting more fundamental reforms in carbon markets may better limit manipulation and deliver price stability.

4. *Fundamentally re-designing carbon markets for stability and integrity*

For example, Congressman McDermott’s bill would design carbon markets to have a stable price path. This **would eliminate the basic incentive for speculation**, because there would be very limited arbitrage opportunities with quarterly sales and stable, predictable prices.

In contrast, most “traditional” cap-and-trade bills would create markets dominated by financial speculators seeking to profit from carbon price movements. Secondary markets would be particularly dominated by financials, and will likely overshadow primary trading. As more investors get involved in the market, it will likely spur the creation of new financial products, and open the door to “innovative” and complex carbon instruments which pose regulatory and market risks while providing few environmental benefits.

Stable prices, as envisioned in the McDermott bill, also would help prevent a boom-bust cycle in carbon markets. In boom years, skyrocketing carbon prices would increase compliance costs for companies, which may be passed onto consumers. In bust years, plummeting carbon prices may undermine low-carbon technology and capital investments, for example. The bill also limits trading to carbon allowances only. By eschewing offsets, it largely eliminates the market risks associated with subprime carbon and ensures asset quality.

Finally, Friends of the Earth welcomes the creative problem-solving that Congressman McDermott has demonstrated in this bill. For too long, the discourse on national climate policy has been polarized into a debate between the risks/merits of a cap-and-trade system versus a climate tax. In fact, the dominance of this debate has even shut out a broader discussion of the role that other strategies can have in a national greenhouse gas reduction plan. **Friends of the Earth commends Congressman McDermott for his efforts to propose a system which attempts to capture the benefits of both approaches – the price stability afforded by a tax and the environmental certainty of a carbon cap.** We believe that this bill is a vital contribution to a much-needed discussion on how to best solve one of the most pressing environmental problems of our time.